

## REMARKS

Claims 7-12 are presently pending in the application. Claims 7 and 9 have been amended to correct minor typographical errors. No new matter has been introduced. Thus, entry and consideration of this Response are respectfully requested.

### I. Informal Matters

In the Office Action (page 3), the Examiner indicates that there would be a more favorable outcome in the prosecution of the application if the Applicant amended claim 7 as follows:

- a. claim 7 + claim 8 + claim 12
- b. claim 7 + claim 9 + claim 12
- c. claim 7 + claim 10 + claim 12
- d. claim 7 + claim 11 + claim 12

The Applicant thanks the Examiner for his suggestions for amending claim 7. However, the Examiner has not given any indication of allowable subject matter in the claims noted above. Accordingly, to expedite prosecution, the Applicant requests the indication of allowable subject matter, if any, in the above claims so that the Applicant may further consider the Examiner's suggestions for amending the claim.

### II. Response To Rejections

Claims 7-10 and 12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada (EP 0895437 A, hereafter *Hamada*) and further in view of Shepherd et al. (EP 0399612 A2, hereafter *Shepherd*) and Hamalainen (WO 9859441, hereafter *Hamalainen*). The Applicant respectfully traverses the above rejections for the following reasons.

In the Office Action, the Examiner relies on *Hamada* in combination with *Shepherd* and *Hamalainen* to teach or suggest each and every element as recited in the claims of the present invention. The Applicant, however, respectfully disagrees with the Examiner's conclusions and, instead, suggests that the §103 rejections are improper and should be withdrawn.

The Examiner must satisfy the following criteria in order to maintain a *prima facie* case of obviousness under 35 U.S.C. §103:

- 1) a suggestion or motivation, either in the cited references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or combine their teachings to arrive at the invention;
- 2) a reasonable expectation of success at arriving at the invention, if the combination of the cited references is made; and
- 3) a teaching of suggestion of all the recited claim limitations in the combination of the cited references.

Based on a detailed review of the cited references, the Applicant maintains that the Examiner has not sufficiently proven at least two criteria noted above i.e., 1) proper motivation in the cited references themselves to make the suggested combination, or 3) all the recited limitations taught or suggested in the combination of the cited references. More specifically, the cited prior art, alone or in combination, fails to teach or suggest "changing, upon a disturbance of the duplex radio link, only one of the disturbed first or second physical radio channels, wherein the undisturbed first or second physical radio channel is retained," as specifically recited in claim 7.

The central concept of the present invention is directed to changing only the disturbed channel in a duplex radio link when a disturbance is detected in mobile radio communication system. For example, a duplex radio link is used by a mobile station and a base station in a mobile radio communication system in both directions (i.e., uplink and downlink). If a disturbance occurs with respect to one channel, the uplink channel or the down link channel, it is advantageous to change only the disturbed channel and not both channels. Conversely, the prior art cited by the Examiner (particularly *Hamada*) has the deficiency of changing two channels instead of one when a disturbance is detected.

*Hamada* teaches using two out of four duplex communications slots (i.e., a second duplex communications slot) (R2, T2) and a fourth duplex communication slot (R4, T4)) when it is assumed that trouble has occurred in one of the two duplex communication slots. As correctly noted by the Examiner in the Office Action (page 4), *Hamada* is silent with regard to changing, upon a disturbance of a duplex radio link, "only one of the disturbed first or second physical radio channels, wherein the undisturbed first or second physical radio channel is retained." In fact, *Hamada* teaches or suggests that a pair of communication slots out of the two pairs of slots

is retained and the other pair remain disturbed when a disturbance is detected. Therefore, *Hamada* is not only silent with regard to the recited claim feature (i.e., changing only the disturbed channel in a duplex radio link when a disturbance is detected), but actually teaches away from the recited claim feature (i.e., changing two channels instead of one when a disturbance is detected in a duplex radio link).

*Shepard* teaches that “if it is ascertained from local signal quality measurements that corruption is due to a poor radio link between a secondary station and a particular primary station, the secondary station may handover and communicate via another in-range primary station and/or in another duplex voice channel.”(see Col. 5, lines 44-50). Although *Shepherd* teaches or suggests options to reallocate or reassign released time slots or physical channels (see Col. 6, lines 9-58 and Col. 7, lines 1-14), it is not clear how these teachings relate to changing a disturbed channel of a radio link while the undisturbed channel of the same radio link is retained.

Similarly, *Hamalainen* teaches the allocation of additional time slots in separate TDMA frames where a greater number of time slots can be allocated for the downlink frames in order to improve efficiency of radio resource allocation. However, the allocation of additional time slots is not based on channel disturbances.

In summary, there is no teaching, suggestion or motivation to combine *Hamada* with either *Shepherd* or *Hamalainen*. Additionally, even if the combination were made, the combination still would not teach or suggest all the features of the present invention. More specifically, *Hamada* is silent with regard to changing, upon a disturbance of a duplex radio link, only one of the disturbed first or second physical radio channels, wherein the undisturbed first or second physical radio channel is retained. Additionally, although *Shepherd* teaches reassignment of a single duplex channel/slot and *Hamalainen* teaches the transmission/reception in different TDMA frames, these teachings nonetheless do not suggest to one of ordinary skill in the art how channel reassignment can be achieved in the case where only one physical radio channel of the two physical radio channels of a duplex communication slot/channel is disturbed.

Therefore, independent claim 7 is believed to distinguishable over *Hamada*, *Shepherd* and *Hamalainen*, individually or in combination, at least for the reasons noted above. Additionally, dependent claims 8-12 are also believed to be distinguishable over *Hamada*, *Shepherd* and *Hamalainen*, individually or in combination, based on their dependency from claim 7.

III. Conclusion

Based on the foregoing, the Applicant respectfully requests withdrawal of the claim rejections and allowance of the application. If there are any additional fees that are due in connection with this application as a whole, the Examiner is authorized to deduct those fees from Deposit Account No. 02-1818. If such a deduction is made, please indicate Attorney Docket No. 0112740-167 on the account statement.

Respectfully submitted,

BELL, BOYD & LLOYD LLC

BY



Peter Zura

Reg. No. 48,196

Customer No.: 29177

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